

DOCKET FILE COPY ORIGINAL

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

NOV 19 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Amendment of the Commission's
Rules to Establish New Personal
Communications Services

GEN Docket No. 90-314
ET Docket No. 92-100

REPLY COMMENTS OF NORTHERN TELECOM

Northern Telecom Inc. ("Northern Telecom") hereby replies to the comments submitted on the Apple Petition for Emergency relief. Northern Telecom continues to believe that the Commission properly divided the spectrum allocated to unlicensed PCS when it assigned one half of the bandwidth to asynchronous devices and one half to isochronous devices. In that scheme, the Commission also evenly divided the more lightly loaded 1910-1930 MHz band between the asynchronous and isochronous applications.

In its Petition for Emergency Relief, Apple had requested that the Commission assign the lightly loaded band solely to "nomadic" devices. In its comments submitted on November 8, 1993, Apple clarified its petition in light of the Commission's PCS order to request that the lightly loaded band be allocated to asynchronous devices generally, although Apple contends that most asynchronous devices will be "nomadic." Even as clarified, the Commission should reject Apple's request to undo the careful compromise adopted by the Commission in dividing

No. of Copies rec'd
List ABCDE

the lightly loaded 1910-1930 MHz band between asynchronous and isochronous devices.

Northern Telecom agrees with Apple and other commenters that wireless data communications will be an important component of the telecommunications infrastructure. However, Apple continues to attempt to confuse the broad need for wireless data communications with its own narrow view that such communications can only be made possible through the use of Apple's particular technology. For example, in footnote 5 of its comments, Apple states that "For convenience, this document may use the terms 'data' and 'voice' as synonymous with 'asynchronous' and 'isochronous.'" As Northern Telecom indicated in its comments, however, data communications will be provided over both asynchronous and isochronous devices, so that Apple is wrong when it asserts that the Commission must allocate the lightly loaded spectrum solely to asynchronous devices in order to ensure the development of Data-PCS.^{1/}

Northern Telecom anticipates that PCS will develop similarly to other communications technologies, where data will use the best-suited, most efficient transmission method available. The means for transmitting data can be expected to

^{1/} Similarly, the Commission should discount the support offered by Microsoft, the Business Software Alliance and Compaq, since they all operate under the same false premise as Apple, namely that Data-PCS can only be served through asynchronous devices. Likewise, Compaq's assertion that there will be heavy demand for "peer-to-peer" or strictly "nomadic" devices is unsubstantiated. Cf., Comments of Hewlett-Packard, questioning the need for an allocation of spectrum to serve such a limited use, particularly when alternatives such as hard wire or infrared light transmissions could be used.

vary with the application as it does today; data is presently sent via isochronous as well as asynchronous technologies. Indeed, equal if not greater amounts of data are currently transmitted using isochronous methods.

Apple also continues to claim that most of the envisioned Data-PCS applications will be nomadic in nature, although Apple provides no foundation for its assertion.^{2/} While the "peer-to-peer" communications that can be facilitated by Apple's technology will be strictly "nomadic," most data communications needs can and will be met by devices that can be coordinated. Thus, the Commission's allocation plan will allow Data-PCS to develop immediately, without awaiting the full clearing of the spectrum.

Although it may be necessary to delay the deployment of strictly "nomadic" devices until the spectrum is fully cleared, Northern Telecom believes that it will be adverse to the public interest to delay unnecessarily the deployment of coordinatable voice, asynchronous data and isochronous data services in order to accommodate the faster deployment of strictly "nomadic" asynchronous devices. Indeed, the Apple proposal to allocate the lightly loaded band solely to asynchronous devices threatens the deployment of all unlicensed PCS services.

The Commission's allocation of one half of the lightly loaded band to isochronous devices will allow the rapid deployment of coordinatable devices, which in turn will provide

2/ See generally, Apple Comments at pp. 3-4.

the funding for clearing all of the 1890-1930 MHz band. Indeed, the "voice" equipment manufacturers share Apple's goal of promptly clearing the spectrum, because while some applications will be coordinatable, the ease of deployment (and hence lower cost) will increase markedly if the equipment can be marketed to cleared spectrum. Unlike Apple, which has not presented a proposal for funding the clearing of the spectrum under its scheme, several manufacturers who are committed to developing unlicensed PCS have initiated a plan for clearing the spectrum based on the Commission's allocation scheme. An organization has been created and initially funded, and the member companies have committed to spending several million dollars even before any devices have been marketed. However, that plan will be threatened by adoption of the Apple proposal.

One of the necessary components of the plan for funding the relocation of the point-to-point licensees in the 1890-1930 MHz band is the opportunity to begin deploying coordinatable devices in the near future. Such deployment can practically occur, however, only if fairly wide geographic areas (such as MSAs) are identified that can support unlicensed PCS devices without causing harmful interference to the incumbent licensees. Northern Telecom anticipates that UTAM will be able to identify such areas in the 1910-1930 MHz band.

In contrast, in the more densely loaded band it would be highly unlikely that UTAM could find appropriate areas with spectrum available for coordinatable PCS devices, thus necessitating site-by-site reviews. If it becomes necessary to

coordinate on a site-by-site basis, then the cost of deploying unlicensed PCS equipment will skyrocket, thus decreasing the likelihood that such equipment will be deployed. In addition, such site-by-site coordination will inevitably result in delays, since UTAM will operate with finite resources. These added costs and delays in turn could eliminate the expected source of funding for clearing the band, namely a "royalty" on the sales of unlicensed PCS equipment. Finally, if relegated solely to the more crowded 1890-1910 MHz band, the density of incumbent users may be so great as to preclude the use of any coordinatable devices.

The only support offered by Apple for its claim that PCS devices can be easily coordinated is a cite to Northern Telecom's request seeking experimental authority for deployment of wireless voice products.^{3/} Northern Telecom's experience with deployment of coordinatable equipment has convinced us that while the site-by-site coordination has allowed a limited deployment that is useful for market testing, it is too cumbersome and expensive a procedure to support the larger volume of product distribution that is necessary to provide the initial funding for clearing the spectrum. Thus, the Apple proposal is likely to

^{3/} As an initial matter, the Northern Telecom experimental application seeks authority to use the lightly loaded 1910-1930 MHz band, not the more heavily loaded 1890-1910 MHz band.

hinder the successful development of all unlicensed PCS applications.^{4/}

With respect to Apple's concerns with adjacent channel interference and the need for guard bands, Northern Telecom observes that while Apple admits in footnote 15 that its 4 MHz guardband is merely illustrative, it then goes on to use that same 4 MHz figure to demonstrate that Data-PCS will have inadequate spectrum. Several companies that are committed to development of the unlicensed band are currently working with the incumbent users to determine the real requirements of the incumbents and to develop cost-effective solutions. Apple has been invited to participate in those discussions, but has not yet joined. Northern Telecom urges Apple to contribute to those efforts, rather than merely postulating a "catastrophe" scenario.

Similarly, Apple complains in its comments about an alleged "bias" of UTAM, but Apple has chosen not to participate actively in UTAM's efforts to date. UTAM membership is open to all, and Northern Telecom once again urges Apple and any other Data-PCS proponents to become active in UTAM. Indeed, as more

^{4/} In addition, whatever potential benefit might arise from the allocation of contiguous spectrum in the 1890-1910 MHz band would be more than offset by the resulting inability to deploy coordinatable equipment because of the congested nature of that spectrum. Thus, Northern Telecom urges the Commission to reject Apple's attempt (Apple Petition at pp. 8-9) to couch its proposal as a boon to coordinatable isochronous devices, or Spectralink's vague support for the proposed reallocation. Likewise, the Commission should summarily deny the request of Metricom to have the Commission alter its Rules to mandate the Metricom technology in the 1910-1930 MHz band, since such a pleading is properly submitted as a petition for reconsideration of the spectrum etiquette adopted by the Commission, not as comments on the unrelated Apple Petition for Emergency Relief.

companies participate in UTAM, more "seed money" can be raised, greater people and resources will be available to accomplish the work, and the unlicensed band will be cleared sooner for the benefit of all users of the 1890-1930 MHz band.

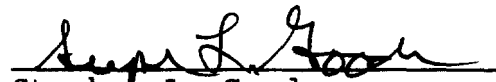
In sum, Northern Telecom continues to urge the Commission to reject Apple's proposal to make all of the lightly loaded spectrum available for Apple's technology. The allocation scheme adopted by the Commission will support the prompt deployment of coordinatable equipment to meet many of the data and voice requirements of customers, which in turn will provide the necessary level of funding to begin clearing the spectrum. In contrast, Apple's proposal threatens to severely retard the deployment of coordinatable PCS devices, thus jeopardizing the ability of the industry to fund the clearing of the spectrum. Therefore, Northern Telecom requests that the Commission retain the allocation of the 1890-1900 MHz and 1920-1930 MHz bands for isochronous unlicensed PCS devices, and the 1900-1920 MHz band for asynchronous unlicensed PCS devices.

Respectfully submitted,

Northern Telecom Inc.

Of Counsel:

John Lamb, Jr., Esq.
Northern Telecom Inc.
2221 Lakeside Boulevard
Richardson, Texas 75082-4399
(214) 684-8738


Stephen L. Goodman
Halprin, Temple & Goodman
1301 K Street, N.W.
Suite 1020, East Tower
Washington, D.C. 20005
(202) 371-9100

Dated: November 19, 1993

CERTIFICATE OF SERVICE

I, Laura E. Magner hereby certify that on the 19th day of November, 1993, a true copy of the foregoing Reply Comments of Northern Telecom Inc. was mailed, postage prepaid, to the following:

Unlicensed PCS Ad Hoc Committee for
2 GHz Microwave Transition
and Management
c/o R. Michael Senkowski
Wiley, Rein & Fielding
1776 K Street, N.W.
Washington, D.C. 20006

Joseph Tasker, Jr., Esq.
Director, Federal Regulatory Affairs
Compaq Computer Corporation
1300 I Street, N.W.
Washington, D.C. 20005

Business Software Alliance
c/o Edwin N. Lavergne
Ginsburg, Feldman and Bress
1250 Connecticut Avenue, N.W.
Suite 800
Washington, D.C. 20036

Spectralink Corporation
c/o Catherine Wang
Swidler & Berlin, Chartered
3000 K Street, N.W.
Suite 300
Washington, D.C. 20007

Cynthia Johnson
Hewlett-Packard Company
900 17th Street, N.W.
Suite 1100
Washington, D.C. 20006

Compaq Computer Corporation
c/o Ian D. Volner and
William Coston
Venable, Baetjer, Howard
& Civiletti
1201 New York Avenue, N.W.
Washington, D.C. 20005

Kimberly T. Ellwanger
Director of Corporate Affairs
Microsof Corporation
One Microsoft Way
Redmond, Washington 98052-6199

Metricom, Inc.
c/o Henry M. Rivera
Ginsburg, Feldman and Bress
1250 Connecticut Avenue, N.W.
Suite 800
Washington, D.C. 20036

Cox Enterprises, Inc.
c/o Laura H. Phillips
Dow, Lohnes & Albertson
1255 23rd Street, N.W.
Suite 500
Washington, D.C. 20037

James F. Lovette
Apple Computer, Inc.
One Infinite Loop
MS: 301-4J
Cupertino, California 95014

James M. Burger
Chief Counsel - Government
Apple Computer, Inc.
1550 M Street, N.W.
Suite 1000
Washington, D.C. 20005

Alcatel Network Systems, Inc.
c/o Robert J. Miller
Gardere & Wynne, L.L.P.
1601 Elm Street
Suite 3000
Dallas, Texas 75201

Mr. J. Barclay Jones
Vice President for Engineering
American Personal Communications
1025 Connecticut Avenue, N.W.
Washington, D.C. 20036

Jeffrey L. Sheldon
Utilities Telecommunications Council
1140 Connecticut Avenue, N.W.
Suite 1140
Washington, D.C. 20036

Apple Computer, Inc.
c/o James M. Burger
Henry Goldberg
Goldberg, Godles, Wiener & Wright
1229 19th Street, N.W.
Washington, D.C. 20036

American Personal Communications
c/o Jonathan D. Blake
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044

MCI Telecommunications Corporation
c/o Larry A. Blosser and
Donald J. Elardo
1801 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

H. Mark Gibson
Senior Engineer, PCS Development
Comsearch
11720 Sunrise Valley Drive
Reston, Virginia 22091

and was hand delivered to the following:

Chairman James H. Quello
Federal Communications Commission
1919 M Street, N.W.
Room 802
Washington, D.C. 20554

Commissioner Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W.
Room 844
Washington, D.C. 20554

Commissioner Ervin S. Duggan
Federal Communications Commission
1919 M Street, N.W.
Room 832
Washington, D.C. 20554

Kathleen B. Levitz
Acting Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington, D.C. 20554

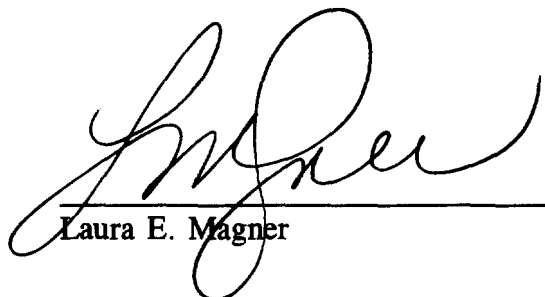
Renee Licht
Office of General Counsel
Federal Communications Commission
1919 M Street, N.W.
Room 614
Washington, D.C. 20554

David R. Siddall
Office of Engineering & Technology
Federal Communications Commission
2025 M Street, N.W.
Room 7102-A
Washington, D.C. 20554

Thomas Derenge
Office of Engineering & Technology
Federal Communications Commission
2025 M Street, N.W.
Room 7332
Washington, D.C. 20554

Dr. Thomas P. Stanley
Chief Engineer
Federal Communications Commission
2025 M Street, N.W.
Room 7002
Washington, D.C. 20554

Rodney Small
Office of Engineering & Technology
Federal Communications Commission
2025 M Street, N.W.
Room 7332
Washington, D.C. 20554



Laura E. Magner